

CLAIMS

What is claimed is:

1. A resource allocation system for a network, the system comprising:
a traffic shaper operative to decompose a network stream into a plurality of flows, each flow representing a service or application on a network down-link, and shape network traffic by allocating a different bandwidth and delay to each flow; and
a policy processor operative to control said traffic shaper and dynamically allocate at least one air interface resource to at least one network device in association with at least one of said flows.
2. A system according to claim 1 wherein said policy processor is operative to retrieve information regarding a mobile user.
3. A system according to claim 2 wherein said information includes any of a user profile and a user location.
4. A system according to claim 1 wherein said policy processor is operative to retrieve information regarding said network.
5. A system according to claim 4 wherein said information includes any of an ASP profile and a measure of loading on said air interface.
6. A system according to claim 2 or 5 wherein said policy processor is operative to issue a service quality control signal associated with any of said information to said traffic shaper.
7. A system according to claim 2 or 5 wherein said policy processor is operative to interface with a mobile telecommunications system infrastructure and retrieve any of said information.
8. A system according to claim 1 and further comprising:

administration means for provisioning said system, defining policies for said policy processor, and monitoring system operations.

9. A system according to claim 1 wherein said network is a cellular telephone network.
10. A system according to claim 9 wherein said a policy processor comprises:
 - a capacity and mobility analyzer operative to:
 - track the distribution of a plurality of mobile stations among a plurality of cells of said network; and
 - determine load and available resources available to said air interface;
 - and
 - a core policy processor operative to budget any of bit rate, delay, duration, and amount of data for any of said cells such that said bit rate for any of said cells does not exceed a dynamic capacity which is available for data transmission in said cell.
11. A system according to claim 1 wherein said traffic shaper is intermediate a GGSN and an IP packet network.
12. A system according to claim 1 wherein said policy processor is intermediate said traffic shaper and an SGSN.